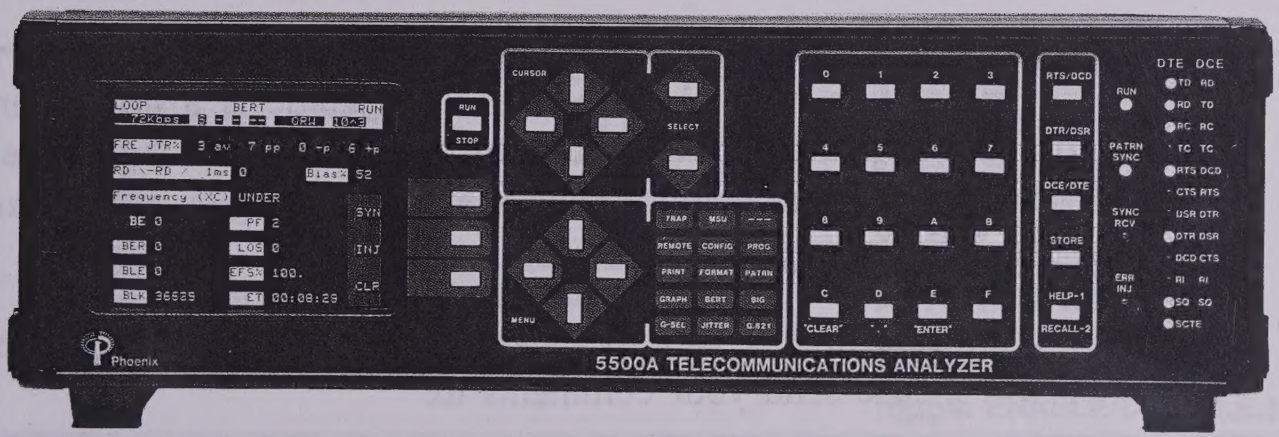


Quick Reference Guide

5500A Telecommunications Analyzer

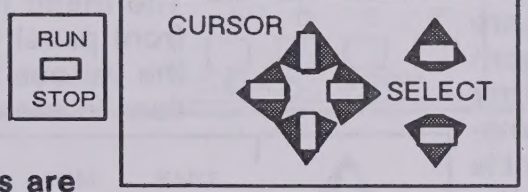
Engineering new standards in technology

This guide is meant to be a supplement to, not a replacement for, the 5500A Instruction Manual. Included in this guide is a brief tour of the front and rear panels, a description of the various menus and the associated softkeys, remote operating instructions, and a glossary of parameter acronyms that appear on the various menus.

Any comments or suggestions on improving this guide would be most welcome. Please send your comments to:

5500A QuickRef
Phoenix microsystems inc.
991 Discovery Drive
Huntsville, AL 35806

The RUN/STOP key is used to start or stop testing.



The CURSOR keys are used to move the cursor within the menu in the direction indicated by the arrow which surrounds the key.

The SELECT keys are used to change/select values or items in the field highlighted by the cursor. (Example: with the cursor over the AUTO RESYNC field on the BERT Format menu, the SELECT key would toggle ENABLE/DISABLE.)

The **RUN/STOP**, **CURSOR**, and **SELECT**, keys are discussed in detail in section three of the instruction book. The **SELECT** keys wrap, that is they will scroll through the entire range of selections for that field and return to the beginning. For example, pressing the UP SELECT key in the example above, the display would show DISABLE, ENABLE, DISABLE, ENABLE, ..., etc.

The MENU keys are used to move from one menu to another within the menu matrix. The movement is in the direction of the arrows.

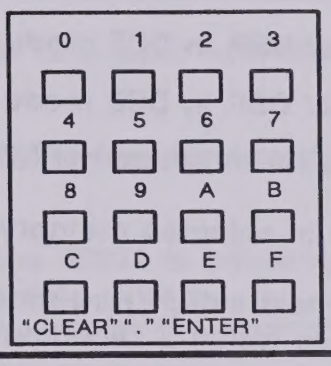
The menu matrix is printed on the front panel to provide a ready map of the various menu locations to aid the user in menu selection.

TRAP	MSU	———
REMOTE	CONFIG	PROG
PRINT	FORMAT	PATRN
GRAPH	BERT	BIG
G SEL	JITTER	G.821

This is NOT a membrane switch. It is a painted list!!!

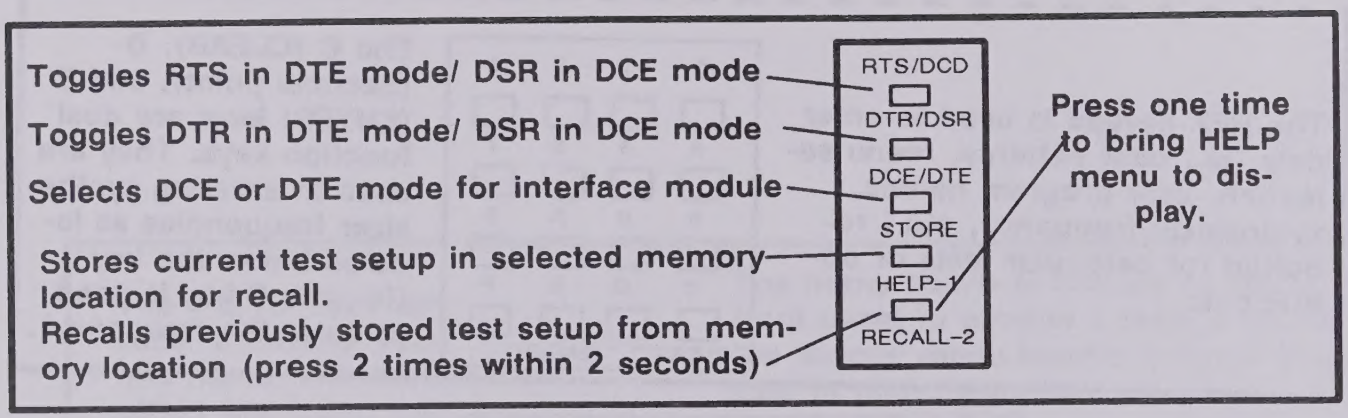
The **MENU** keys do not wrap around. If, for example, you were viewing the JITTER menu and pressed the DOWN **MENU** key, the JITTER menu would remain on the display and an audible 'BEEP' would be heard. Menus may be selected at anytime without interrupting an in progress test.

The HEX keypad is used to enter data (ie., user patterns, menu selection, user program names, synthesizer frequency, etc.) required for particular tests or operations.

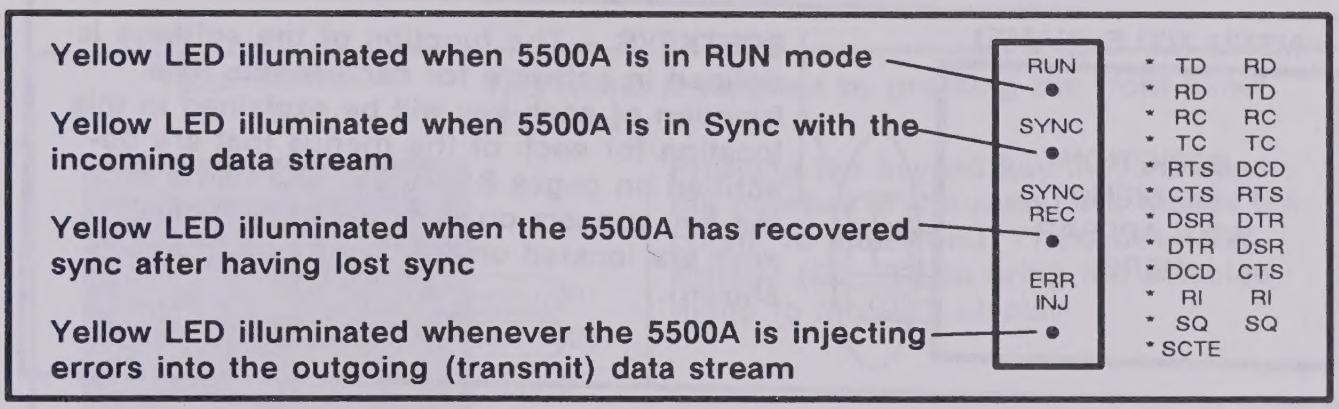


The C (CLEAR), D (decimal point), and E (ENTER) keys are dual function keys. They are used in entering synthesizer frequencies as labeled below the key (ie., the E key is used to enter the frequency).

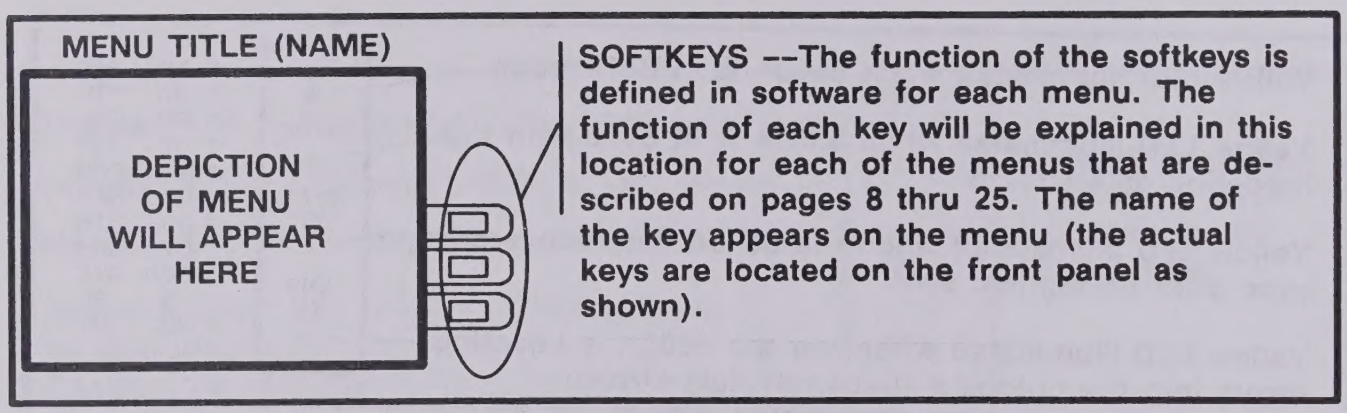
Front panel HEX keypad.


Toggles RTS in DTE mode/ DSR in DCE mode
Toggles DTR in DTE mode/ DSR in DCE mode
Selects DCE or DTE mode for interface module
Stores current test setup in selected memory location for recall.
Recalls previously stored test setup from memory location (press 2 times within 2 seconds)
RTS/DCD
DTR/DSR
DCE/DTE
STORE
HELP-1
RECALL-2
Press one time to bring HELP menu to display.

When using the STORE or RECALL function, after pressing the appropriate key, a list of memory locations will appear on the display. Press the keypad number for the memory location from or to which you desire to recall or enter a test setup.


Yellow LED illuminated when 5500A is in RUN mode
Yellow LED illuminated when 5500A is in Sync with the incoming data stream
Yellow LED illuminated when the 5500A has recovered sync after having lost sync
Yellow LED illuminated whenever the 5500A is injecting errors into the outgoing (transmit) data stream
RUN
SYNC
SYNC REC
ERR INJ
* TD RD
* RD TD
* RC RC
* TC TC
* RTS DCD
* CTS RTS
* DSR DTR
* DTR DSR
* DCD CTS
* RI RI
* SQ SQ
* SCTE

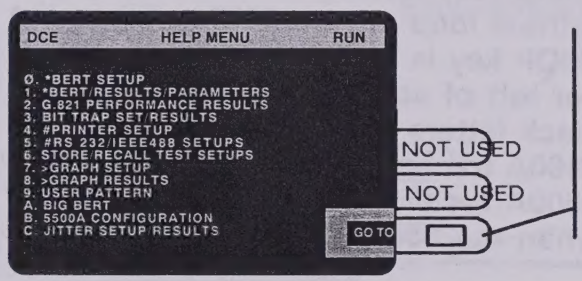
Front panel LEDs (described above) and ACTIVITY INDICATORS (These LEDs monitor the status of the interface connector lines and therefore their indications are interface module dependent. Refer to the instruction manual for additional information.)


MENU TITLE (NAME)
DEPICTION OF MENU WILL APPEAR HERE
SOFTKEYS --The function of the softkeys is defined in software for each menu. The function of each key will be explained in this location for each of the menus that are described on pages 8 thru 25. The name of the key appears on the menu (the actual keys are located on the front panel as shown).

On pages 8 through 25, a brief description of each of the menus located on the 5500A menu matrix is presented. Both the RS-232 and FRACTIONAL T1 BERT DISPLAY and SETUP menus are presented to illustrate how individual menus are tailored to the I/O module in use.

HELP MENU

This menu is reached by pressing the front panel HELP **key.**

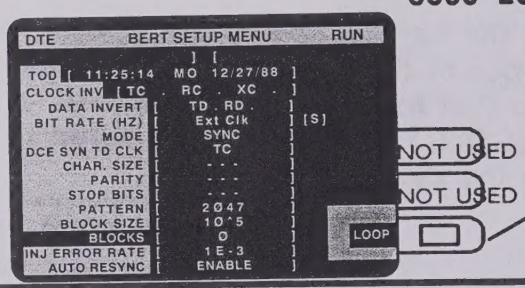


Pressing the keypad key that matches the number of the menu will moves the cursor to that menu. Then press this softkey (GO TO) to bring the selected menu to the CRT display.

This menu provides the user with a visual indication and numeric listing of all the menus in the 5500A menu matrix. It is called to the screen by pressing the **HELP–1** key one time. This menu may be called to the screen at any time without disturbing the test, if any, in progress.

BERT SETUP

This menu is reached by pressing "0" followed by pressing the GO TO softkey on the HELP menu (with 5500-200 I/O).

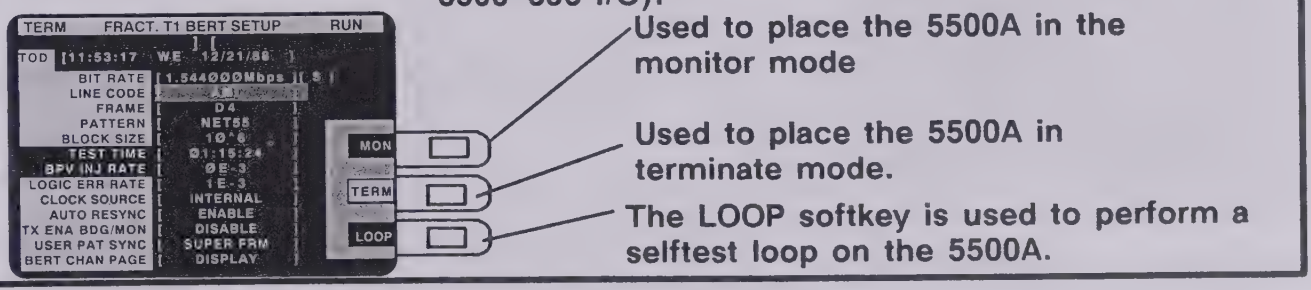

DTE
BERT SETUP MENU
RUN
TOD [11:25:14 MO 12/27/88]
CLOCK INV [TC . RC . XC .]
DATA INVERT [TD . RD .]
BIT RATE (HZ) [Ext Clk] [S]
MODE [SYNC]
DCE SYN TD CLK [TC]
CHAR. SIZE [- - -]
PARITY [- - -]
STOP BITS [- - -]
PATTERN [2Ø47]
BLOCK SIZE [10^5]
BLOCKS [Ø]
INJ ERROR RATE [1E-3]
AUTO RESYNC [ENABLE]
NOT USED
NOT USED
LOOP

The LOOP softkey is used to perform a selftest loop on the 5500A. When the LOOP key is active (LOOP appears in upper left of screen and LOOP appears in black letters by softkey) the internal 5500A transmitter is connected to the 5500A receiver. Tests can not be run when the 5500A is in the LOOP mode.

This menu is used to "setup" the 5500A to run the test desired by the operator. Most of the variables are selected by moving the cursor over the desired field and then using the cursor select keys to set the field to the desired value. Exceptions to this are the PATTERN, BLOCKS, BIT RATE and INJ ERROR RATE which can be entered via the front panel HEX keypad.

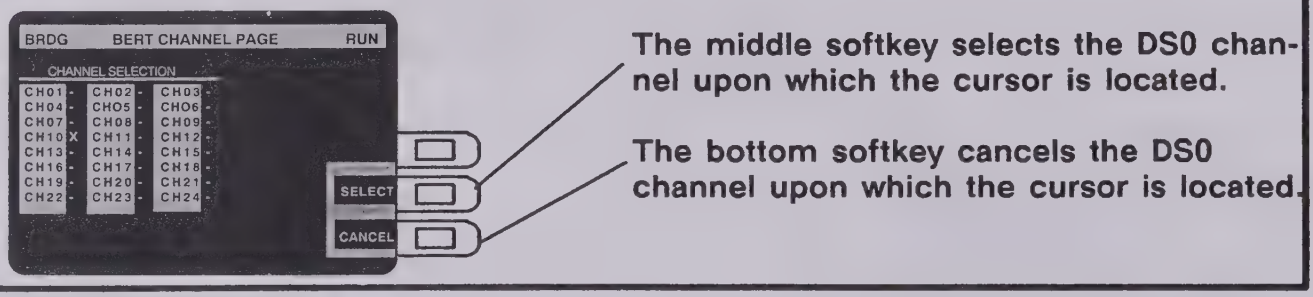
FRACT. T1 BERT SETUP MENU

This menu is reached by pressing "0" followed by pressing the GO TO softkey on the HELP menu (with 5500-636 I/O).


TERM
FRACT. T1 BERT SETUP
RUN
TOD [11:53:17 WE 12/21/88]
BIT RATE [1.544000Mbps] S
LINE CODE [B8ZS]
FRAME [D4]
PATTERN [NET55]
BLOCK SIZE [10^6]
TEST TIME [01:15:24]
BPV INJ RATE [0E-3]
LOGIC ERR RATE [1E-3]
CLOCK SOURCE [INTERNAL]
AUTO RESYNC [ENABLE]
TX ENA BDG/MON [DISABLE]
USER PAT SYNC [SUPER FRM]
BERT CHAN PAGE [DISPLAY]
MON
TERM
LOOP
Used to place the 5500A in the monitor mode
Used to place the 5500A in terminate mode.
The LOOP softkey is used to perform a selftest loop on the 5500A.

This menu is the same as the one above except it is for T1 testing rather than RS-232. To alter the BIT RATE on this screen or the one above, you may select standard bit rates (the letter "S" appears to the right of the BIT RATE line) or optional (the letter "O" appears). When S is selected, the bit rates are selected via the SELECT keys. When O is selected, the frequency is entered via front panel key pad.

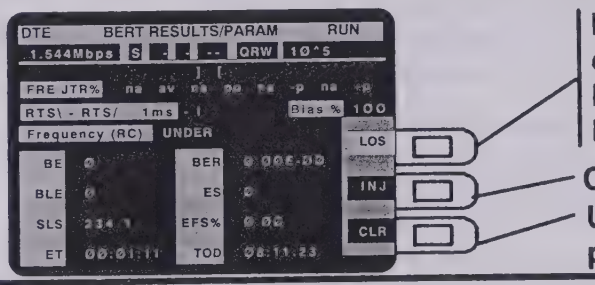
BERT CHANNEL PAGE MENU


BRDG
BERT CHANNEL PAGE
RUN
CHANNEL SELECTION
CH01 - CH02 - CH03 -
CH04 - CH05 - CH06 -
CH07 - CH08 - CH09 -
CH10 X CH11 - CH12 -
CH13 - CH14 - CH15 -
CH16 - CH17 - CH18 -
CH19 - CH20 - CH21 -
CH22 - CH23 - CH24 -
SELECT
CANCEL
The middle softkey selects the DS0 channel upon which the cursor is located.
The bottom softkey cancels the DS0 channel upon which the cursor is located.

This menu is used to select the DS0 channel(s) that the user desires to test. It is reached by placing the cursor over the DISPLAY field (opposite BERT CHAN PAGE) on the FRACT. T1 BERT SETUP menu illustrated on page 10 above.

BERT RESULTS/PARAM MENU

This menu is reached by pressing "1" followed by pressing the GO TO softkey on the HELP menu (with RS-232 I/O).



Displays BRK until unit achieves sync; then displays SYNC. Displays LOS when sync is lost; displays RCV when sync recovered; key will break sync when pressed.

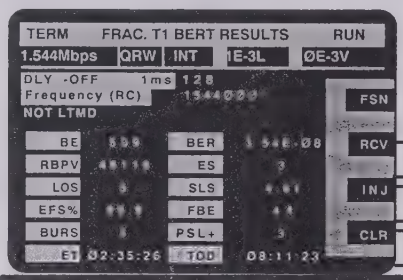
Controls error inject, ON/OFF

Used to clear parameter counters; must press twice within 2 seconds.

The primary purpose of the BERT menu is to view the results of a test, either as the test is running and/or when the test is completed. The bottom half of the menu allows the user to view any 8 of the 23 parameters the 5500A is tracking. The top half of the menu displays mode, bit rate, character size, parity, stop bits, pattern, block size, blocks, time interval, frequency, and low speed jitter.

FRAC. T1 BERT RESULTS MENU

This menu is reached by pressing "1" followed by pressing the GO TO softkey on the HELP menu (with 5500-636 I/O).



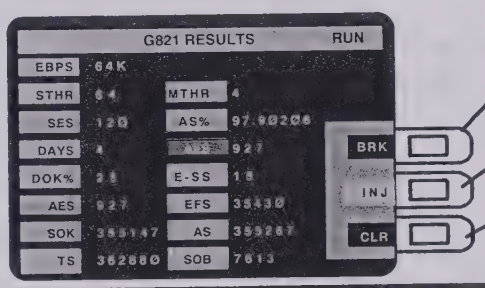
Displays BRK until unit achieves sync; then displays SYNC. Displays LOS when sync is lost; displays RCV when sync recovered; key will break sync when pressed.

Controls error inject, ON/OFF

Used to clear parameter counters; must press twice within 2 seconds.

The primary purpose of the FRAC. T1 BERT RESULTS menu is to view the results of a test, either as the test is running and/or when the test is completed. The bottom half of the menu allows the user to view any 12 of the 47 parameters the 5500A is tracking. The top half of the menu displays bit rate, line code, pattern, clock source, logic error rate, and BPV error inject rate, frequency and whether clock slip is excessive. FSN is frame sync indicator.

G.821 RESULTS MENU



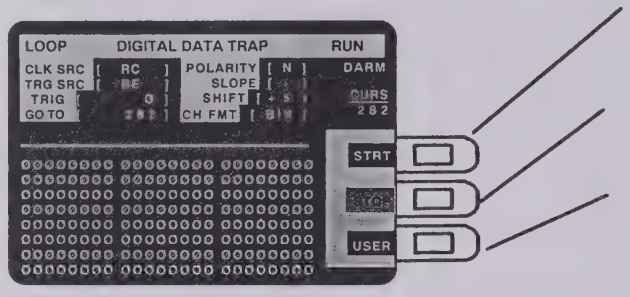
Displays BRK until unit achieves sync; then displays SYNC. Displays LOS when sync is lost; displays RCV when sync recovered; key will break sync when pressed.

Controls error inject, ON/OFF

Used to clear parameter counters; must press twice within 2 seconds.

Used to conduct performance monitoring in accordance with G.821 reccommendations. Any of the G.821 performance parameters may be selected for viewing on this menu. This menu is reached by pressing "2" followed by pressing the GO TO softkey on the HELP menu.

DIGITAL BIT TRAP MENU



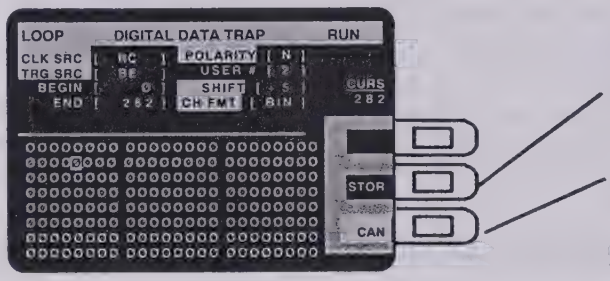
The top softkey starts the trap function.

The middle softkey stops the trap function.

The bottom softkey cancels this menu and sends you to the bit trap user store menu.

This menu is used to establish the conditions under which the 5500A will trap data for later analysis. It is also used to view the data that has been traped, either in binary format as shown, or in hex as shown on the next page. Once the data has been trapped, it can be placed into one of the user patterns to be used to stress test a circuit. To store a trapped data stream, press the bottom (**USER**) softkey to go to the bit trap user store menu.

DIGITAL BIT TRAP USER STORE MENU

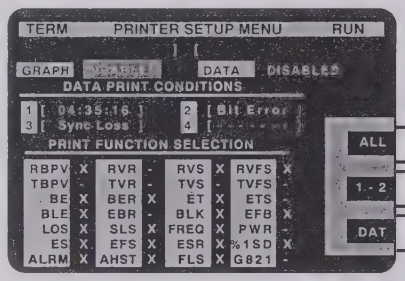


The middle softkey stops the trap function.

The bottom softkey cancels this menu and sends you to the bit trap user store menu.

This menu is used to tranfer the trapped data to the selected user pattern location (USER #) to be used for testing spans/equipment that exhibit pattern sensitivity. The user should note that any pattern can be trapped. This may result in a pattern that does not meet the pattern sync criteria of the 5500A. If that is the case, the 5500A will NOT obtain pattern sync; however, the pattern may be used for testing the network for problems other then pattern sync problems.

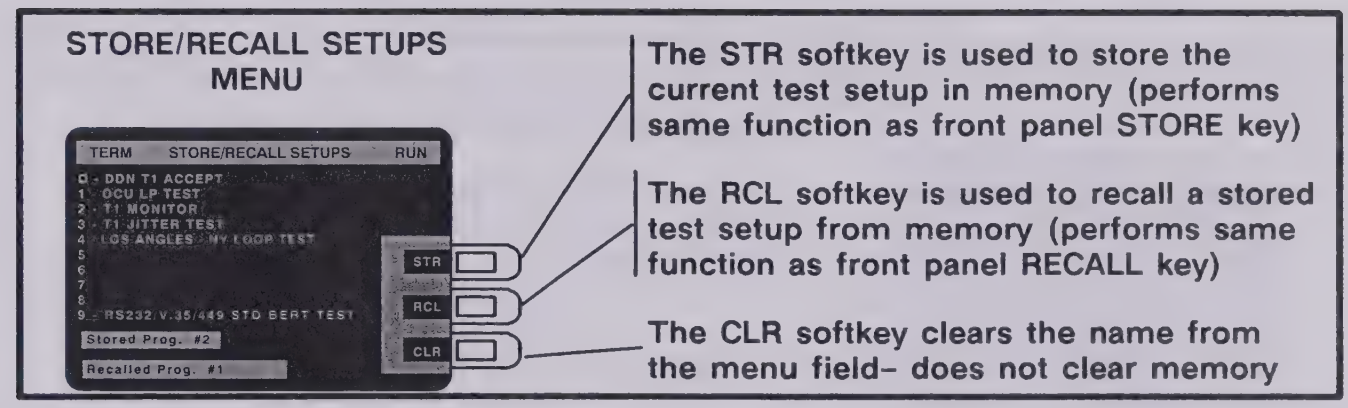
PRINTER SETUP MENU


TERM
PRINTER SETUP MENU
RUN
GRAPH
DATA
DISABLED
DATA PRINT CONDITIONS
1 [04:35:16]
2 [Bit Error]
3 [Sync Loss]
4 [- - - - -]
PRINT FUNCTION SELECTION
RBPV X RVR - RVS X RVFS X
TBPV - TVR - TVS - TVFS -
BE X BER X ET X ETS -
BLE X EBR - BLK X EFB X
LOS X SLS X FREQ X PWR -
ES X EFS X ESR X %1SD X
ALRM X AHST X FLS X G821 -
ALL
1 - 2
DAT

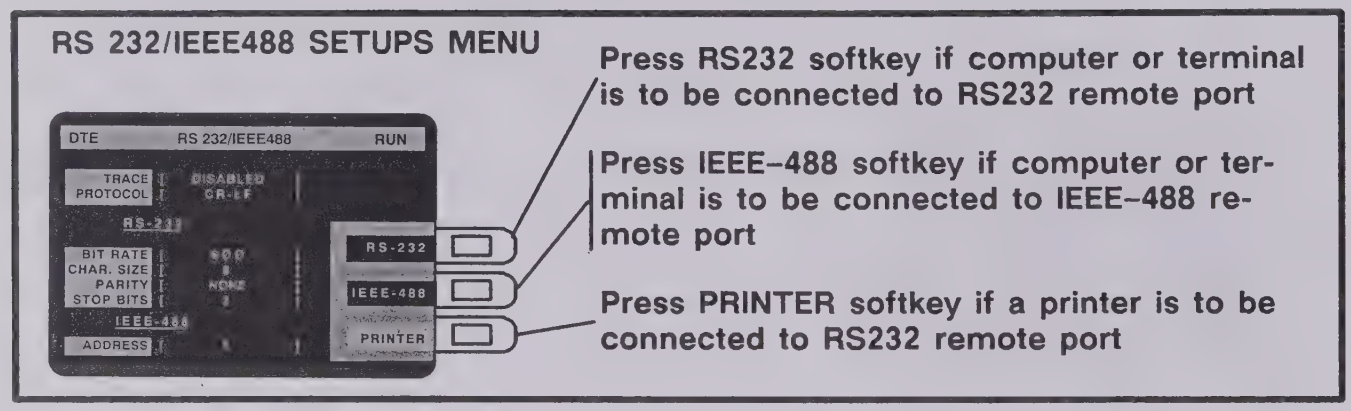
Used when printing a graph. Top softkey (ALL) instructs 5500A to print all of graph; middle softkey (1–2) instructs 5500A to print only that portion of graph between the cursors (on graph display)

Press to force the 5500A to print numeric data at the time the key is pressed if DATA is enabled

The DATA PRINT CONDITIONS area of the menu is used to establish the conditions under which a print out will take place (ie., 15 min selected will mean a printout will occur every 15 minutes). The PRINT FUNCTION SELECTION is used to select the parameters to be printed.

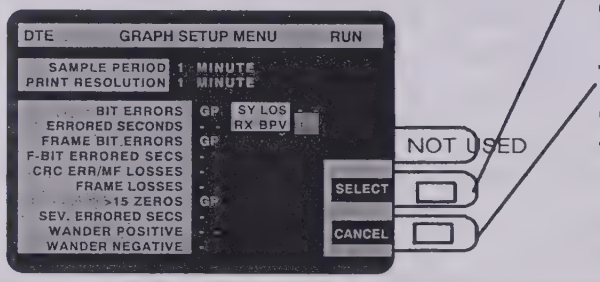

STORE/RECALL SETUPS MENU
TERM
STORE/RECALL SETUPS
RUN
0 - DDN T1 ACCEPT
1 - OCU LP TEST
2 - T1 MONITOR
3 - T1 JITTER TEST
4 - LOS ANGLES HY LOOP TEST
5
6
7
8
9 - RS232 V.35/449 STD BERT TEST
Stored Prog. #2
Recalled Prog. #1
STR
RCL
CLR
The STR softkey is used to store the current test setup in memory (performs same function as front panel STORE key)
The RCL softkey is used to recall a stored test setup from memory (performs same function as front panel RECALL key)
The CLR softkey clears the name from the menu field– does not clear memory

This menu permits the user to store as many as ten complete test setups thereby allowing 'one–button' testing of recurring tests. The fields following the number of the memory location are used to enter the name of the test setup making future identification easier. The Stored Prog field identifies the most recent program stored while the Recalled Prog field identifies the most recently recalled program.



The RS 232/IEEE488 SETUPS menu is used to configure the 5500A to match the terminal/printer connected to the remote port. Protocol and Address are the only selections required for IEEE–488. In addition to protocol; bit rate, character size, parity, and number of stop bits must be defined for RS–232.

GRAPH SETUP MENU



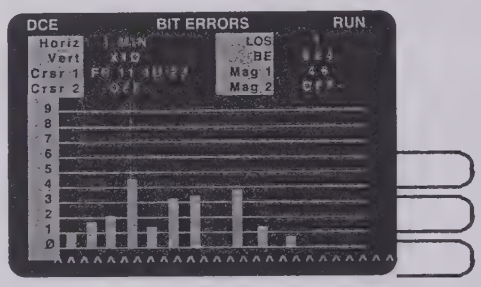
SELECT softkey will activate any changes that have been made on this menu and discard the stored data

The CANCEL softkey will cancel any change made on this menu and not disturb stored data

Both keys will flash if a difference exists between menu and stored data

This menu is used to set the resolution for the stored graph data and the resolution of the printed graph data (if printed). It is also used to select the parameters to be graphed (G), graphed and printed (GP), or not selected for either (--).

GRAPH RESULTS MENU



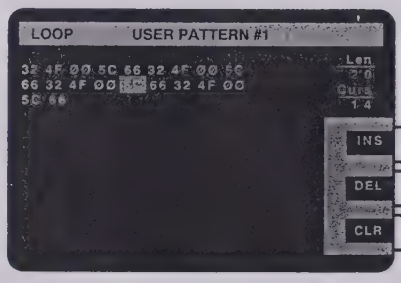
The top center of this display is used to select for graphing (by palcing the cursor over the area and scrolling to the desired paramter) one of the parameters selected to be graphed on the graph data selection menu.

There are no softkeys associated with this menu

This display is used to graph the data (one parameter at a time) specified in the Graph Setup menu. The display is used to set the horizontal time scale factor and the vertical resolution/magtitude, define the location with respect to time of cursors 1 and 2, display the magnitude of the data at cursor 1 and 2, and display the numeric results of two selected parameters (not controlled by Graph Setup menu).

USER PATTERN MENU

This menu is reached by pressing "9" followed by pressing the GO TO softkey on the HELP menu.



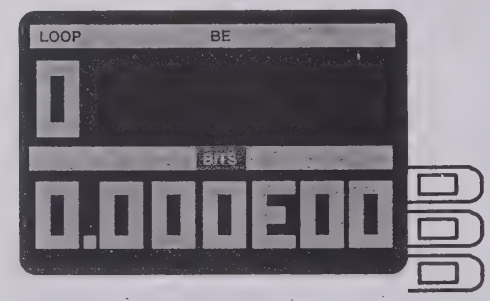
Used to insert value under cursor in the byte to the right of the cursor.

Deletes byte under the cursor

Clears entire pattern if pressed twice within 2 seconds.

This menu permits the user to write any test pattern required for a particular application and store it for future use. Ten patterns can be stored, each of which may be of any size between 24 and 16,384 bits. The pattern is entered in HEX values in 8–bit bytes using the HEX front panel keypad and the softkeys (described above). The front panel **RECALL–2** and **STORE** keys are used to store and recall the programmed patterns.

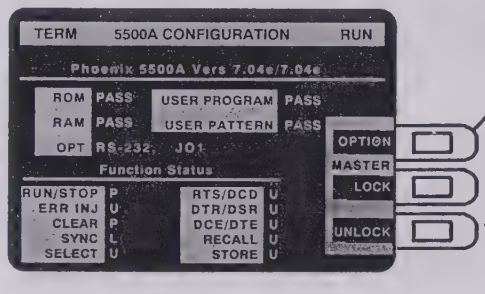
BIG BERT MENU



There are no softkeys associated with this menu

This display is used when it is desired to view one or two parameters and the operator is some distance from the 5500A. The large display permits easy viewing from across the room.

5500A CONFIGURATION MENU



The top softkey brings the system options menu to the screen.

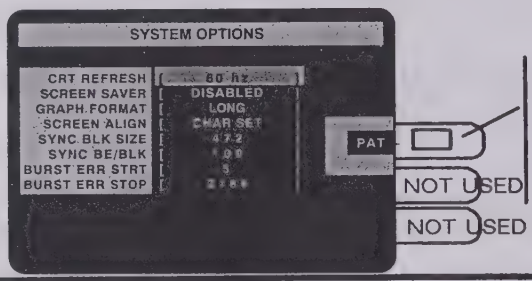
The middle softkey "locks" (disables) the front panel controls listed on the menu.

The bottom softkey "unlocks" (enables) the front panel controls listed on the menu. It is advisable to press this softkey prior to setting up the 5500A.

This menu displays information concerning the overall "health" and configuration of the 5500A. The top line of the menu provides the user with the version of the software installed in the unit. The middle section gives a pass/fail indication for the RAM, ROM, USER PATTERN, and USER PROGRAM (the last two will indicate FAIL if they have not been programmed) and lists options installed. The bottom section permits the user to lock (L), protect (P), or unlock (U) front panel functions.

SYSTEMS OPTIONS MENU

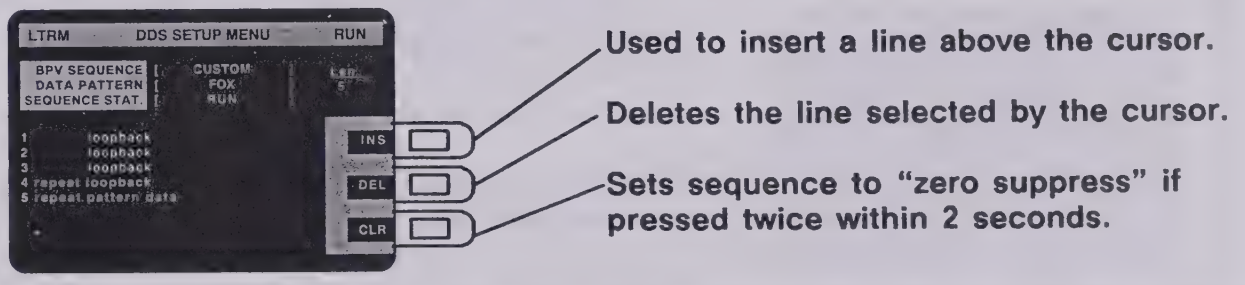
This menu is reached by pressing the OPTION softkey on the 5500A Configuration Menu.


SYSTEM OPTIONS
CRT REFRESH [60 hz]
SCREEN SAVER [DISABLED]
GRAPH FORMAT [LONG]
SCREEN ALIGN [CHAR SET]
SYNC BLK SIZE [472]
SYNC BE/BLK [100]
BURST ERR STRT [5]
BURST ERR STOP [2/80]
PAT
NOT USED
NOT USED

This softkey brings the selected test pattern to the screen to permit alignment of the CRT display. The alignment is accomplished using the CURSOR movement keys.

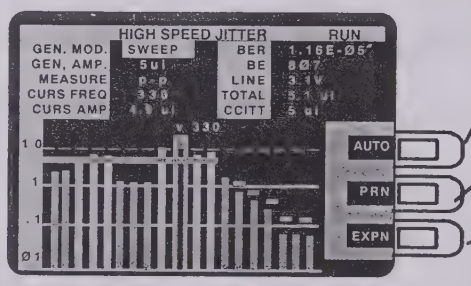
This menu is used to set the CRT refresh rate (50/60 Hz); enable/disable screen saver; set the graph format; select the screen alignment test pattern; select the block size and BE/BLK ratio for block sync; and set the burst error start and stop thresholds.

DDS SETUP MENU



This menu is used with the 5500A–538 module. It is used to establish the desired sequences for testing a DDS at the customer level. Complete instructions for this menu are found in the 5500A–538 instruction book, Phoenix part number 34–00041.

JITTER MENU



Used to control auto sweep, manual control of CURS FREQ, and CURS FREQ and GEN AMP resolution.

Controls printer port

Enables or disables high resolution (expanded) display.

High speed jitter options (J0–2, J0–5) must be installed to bring this menu to the screen. Screen is used to display jitter relative to selected jitter tolerance mask. Conditions affecting display are selected (GEN. MOD., GEN. AMP., CURS FREQ, CURS AMP) and value of Line level, total jitter amplitude, and mask amplitude (plus two user selctable parameters) are displayed.

CONDENSED REMOTE OPERATING INSTRUCTIONS

This section contains a brief set of instuctions for operating the 5500A from the RS 232 remote port. Complete instructions for remote operation are contained in section five of the instruction manual.

Select the RS 232/IEEE488 menu on the Model 5500A (refer to page 16). This menu is used to configure the 5500A to match those of the terminal or computer to be used as the remote control device. Enabling the TRACE on the menu permits the user to monitor the character data streams across the RS-232 bus. Data from the terminal will appear on the left of the screen on the second line from the top (line with the "] [" in the center) while the data from the 5500A to the communicating device will appear on the same line to the right.

The Model 5500A is shipped from the factory with its RS-232 port configured as a DCE. That is, it is emulating a modem expecting a printer or terminal to be connected to it. If it is desired to connect a modem to the port, a null modem cable must be used, or the internal dip switches within the 5500A must be changed to the DTE position. Refer to

section 2 of the manual for instructions regarding this change. The RS–232 port pin assignments are as follows:

PIN	FUNCTION	SOURCE
3	RD	USER
2	TD	5500A
5	CTS	USER
4	RTS	5500A
20	DTR	5500A
8	DCD	USER

Connect the terminal of computer to the 5500A RS–232 port connector. Turn on both units. Press the **RETURN** key on the terminal's keyboard. A prompt ">" should appear on the left side of the screen. This indicates communications have been established between the terminal or computer and the 5500A and are in the interactive mode. It is from this mode that you will enter the commands described below used to control the 5500A or review its results.

Commands to the Model 5500A are divided into two basic types. The first command type, configuration commands, is used to configure the test setup. Commands of the second type, result commands, are used to read the test results.Configuration commands have three formats. The first format is the command issued by itself (for example BR for bit rate). When issued with no parameters, all of the configuration commands return their present setting. The second format is to follow the command with a question mark (?) in the parameter field (for example BR ?). In response to this format, the 5500A returns either a list of all possible settings for this command or a description of the parameter setting format. The third format is the command followed by a valid parameter. This results in the immediate update of the selected function to the specified state (for example BR 9600 sets the bit rate to 9600 bps).

The second command type, the results commands, is used to read test results. These commands ignore any data past the command field and always return the present value of the selected function. In most cases, the value returned in response to one of these commands is a snap–shot of the parameters value at the instant the command is evaluated.

The exceptions to this are event time, frequency measurement, and bias. These three measurements are configured such that repeated requests will result in a newly measured value for each response. This allows for the gathering of meaningful data in cases where statistical analysis will be done on the readings. The question mark (?) is a special command. Entering the question mark following the prompt (B>) will return the Help menus as shown on pages 30 through 36. These menus list all the system command words and a brief command description.

FDX

-> SYSTEM:

? ..... This Help Menu	LOCK ..... Parameter Lock	STATUS ..... System Status
BFxx ..... Bert Field xx	LOOP ..... Tx to Rx Loop	SYBLK ..... Sync Loss blksiz
BIG1 ..... Big Bert Fld #1	LPMODE .... Loop Mode B-303	SYERR ..... Sync Loss be/blk
BIG2 ..... Big Bert Fld #2	PROTECT ... Parameter Prot.	SYNC ..... SYNC State
BSTART ..... Burst Err Start	RING ..... RING Mode B-303	TOD ..... Time of Day
BSTOP ..... Burst Err Stop	RLOCK ..... MSU Rem. Lockout	TX0-5 ..... Spare Drivers
CRTRATE .... CRT Rate 50/60hz	RTS/DCD .... Control State	UNLOCK ..... Param. Unlock
DISPLAY ..... Display Menu	RX0-3 ..... Spare Receivers	UPDATE ..... Remote Screen
DSPCRT ..... CRT Disp on.off	SCRNSAV ... Scrn Savr on/off	UPSYNC ..... Usr Pat Fr Sync
DTR/DSR .... Control State	CONFIG ..... Select Terminal	VER ..... Version No.
INTERFACE .. I/F Type	SIGQ ..... SIG QUAL B-303	
INVERT ..... Invert Td Rd etc.	SIM ..... DTE/DCE Select	

-> PRINTER:

GRAPH ..... Graph Setup	PRINT ..... Print Setup	^P ..... Resume Print
PEND ..... ACK/NAK Poll	^C ..... Cancel Print	

-> EVENT TIMING:

ESCALE ..... Timer Scale	ESTOP ..... Event Stop
ESTART ..... Event Start	EVENT ..... Event Time

FDX

PEND ..... ACK/NAK Poll
^C ..... Cancel Print

-> EVENT TIMING:

ESCALE ..... Timer Scale
ESTOP ..... Event Stop
ESTART ..... Event Start
EVENT ..... Event Time

-> USER PROGRAMS, PATTERNS AND SEQUENCES

RECALL ..... User Prog
STORE ..... User Prog
SEQ ..... DDS Xmit Seq.
USRPAT ..... User pat. Edit

-> LOW SPEED JITTER

J+P(H) ..... Pos Jitter Peak
JAVG(H) ..... Average Jitter
J-P(H) ..... Neg Jitter Peak
JPP(H) ..... P-P Jitter

-> HIGH SPEED JITTER

HJAMP ..... Cur. Amplitude
HJGENAMP .. Gen. Amplitude
HJMOD ..... Gen. Modulation
HJBF1 ..... Display Field 1
HJLINE ..... Albo Value
HJPRN ..... Print Graph
HJBF2 ..... Display Field 2
HJMASK .... Spec. Mask Value
HJSTEP ..... Step Size
HJEXP ..... Expanded Graph
HJMASKEN .. Mask Selection
HJTOT ..... Total Value
HJFREQ ..... Cursor Frequency
HJMEAS .... Measure State

FDX

HJEXP ..... Expanded Graph	HJMASKEN .. Mask Selection	HJSTEP ..... Step Size
HJFREQ ..... Cursor Frequency	HJMEAS .... Measure State	HJTOT ..... Total Value

-> BERT:

ABE ..... Adj. Bit Errors	BS ..... Block Size	EFS% ..... Percent EFS
ABER ..... ABE Rate	BURS ..... Burst errors	EFS ..... Err Free Seconds
AHST ..... Alarm History	CBE ..... Curr. Bit Errors	ES ..... Errored Seconds
ALARM ..... Alarms	CBER ..... CBE Rate	ESR ..... Erred Sec Rate
AUTOSYNC .. Auto Sync Break	CEFS ..... CRCE Free Secs	ET ..... Elapsed Time
BA ..... Blks Analyzed	CFS% ..... Percent EFS	ETS ..... ET Seconds
BALS ..... Blue Alarm Secs	CLR ..... Clear	FBE ..... Frame Bit Err
BE ..... Bit Errors	CODE ..... Line Code	FBER ..... FBE Rate
BER ..... Bit Error Rate	CRCE ..... CRC Errors	FBES ..... FBE Errd Sec
BFxx ..... Bert Field xx	CRER ..... CRC Err Rate	FEFS ..... FBE Free Sec
BIAS ..... Bias	CRES ..... CRC Errored Secs	FFS% ..... Percent FEFS
BITS ..... Bit Count	CS ..... Character Size	FLOS ..... Frame Sync Losses
BLE ..... Block Errors	CSLP ..... Clock Slip	FLS ..... Frame Loss Secs.
BLKS ..... Num. of Blocks	EBR ..... Erred Blk Rate	FRAME ..... Frame Enb/Dis
BPVRATE .... BPV Inj. Rate	ED ..... Elapsed Days	FSRC ..... Meas. Freq. Src.
BR ..... Bit Rate	EFB ..... Err Free Blocks	

FDX

BLKS ..... Num. of Blocks	EBR ..... Erred Blk Rate	FRAME ..... Frame Enb/Dis
BPVRATE .... BPV Inj. Rate	ED ..... Elapsed Days	FSRC ..... Meas. Freq. Src.
BR ..... Bit Rate	EFB ..... Err Free Blocks	
–>(continued)		
15Z ..... >15 0s Events	PR ..... Parity	TDCLK ..... DCE SYNC Tx Clock
15ZS ..... >15 0s Secs	PSL+ ..... Pat slips pos.	TES ..... Tx Tot Elapsed Sec
INJ ..... Error Inject	PSL– ..... Pat slips neg.	TSS ..... Tx In Sync Sec
INJMODE .... Inject Mode	R/S ..... R/S State	TVFS ..... Xmtr BPV Free Sec
IRATE ..... BE Inject Rate	RALS ..... MF Rem Alrm Sec	TVR ..... Xmtr BPV Rate
LOSS ..... # of Sync Losses	RBPV ..... Receiver BPV	TVS ..... Xmtr BPV Seconds
MD ..... Mode	REXMIT ..... Rexmit Mode	TXAUTO ..... Tx Auto Resync
MFREQ ..... Meas. Freq.	RUN ..... Start Test	TXENABLE ... Tx Enable (ESF)
MFS% ..... MF Loss Secs %	RVFS ..... Rx BPV Free Sec	WND+ ..... Positive Wander
MLFS ..... MF Loss Free Sec	RVR ..... Rx BPV Rate	WND– ..... Negative Wander
MLOS ..... Multiframe Loss	RVS ..... Rx BPV Seconds	XLOS ..... Tx Sync Losses
MLS ..... MFrame Loss	SB ..... Stop Bits	XSLS ..... Tx Sync Loss Se
MONITOR ... Mon. Mode (ESF)	SLS ..... Sync Loss Seconds	YALS ..... Yellow Alarm Secs
P1sD ..... Percent 1s Den.	STOP ..... Stop Test	
PAT ..... Pattern	TBPV ..... Xmtr BPVs	

FDX

MLOS ..... Multiframe Loss	RVS ..... Rx BPV Seconds	XLOS ..... Tx Sync Losses
MLS ..... MFrame Loss	SB ..... Stop Bits	XSLS ..... Tx Sync Loss Se
MONITOR ... Mon. Mode (ESF)	SLS ..... Sync Loss Seconds	YALS ..... Yellow Alarm Secs
P1sD ..... Percent 1s Den.	STOP ..... Stop Test	
PAT ..... Pattern	TBPV ..... Xmtr BPVs	
-> G703-64k OPTION:		
G7BYTE ..... g703 Byte Sync	G7ROT ..... g703 R.Oct.Tim.	G7SRT ..... G7SRT Rate
G7CSRC .... g703 Clk. Src.	G7SAMP .... g703 Sampl.Edge	G7TLV ..... g703 Tx Level
G7MODE .... g703 Mode	G7SELM .... g703 Sel.Meas.	G7TOT ..... g703 T.Oct.Tim.
GTOCTT ..... g703 Oct. Tim.	G7SELV ..... g703 Sel.Var.	
-> DS0 OPTION		
DSOCLOCK .. Clock Source	DS0ONES ... Xmit All Ones	DS0RLOOP .. Loop Status
DS0IO ..... I/O Mode	DS0RCODE .. Receive Code	DS0XCODE .. Xmit Code
-> DDS OPTION		
DDSCLOCK .. Clock Selection	DDSRCODE . Last Recd Code	SEQSTAT .... Seq. Run Status
DDSIO ..... Data Path Sel.	DRIVE ..... DDS Drive Polar.	SIMPLEX .... Simplex Loop
DDSMODE ... Bridge/Term	SEQ ..... Xmit Sequence	

FDX

G7MODE . . . . . g703 Mode	G7SELM . . . . . g703 Sel.Meas.	G7TOT . . . . . g703 T.Oct.Tim.
GTOCTT . . . . . g703 Oct. Tim.	G7SELV . . . . . g703 Sel.Var.	
-> DS0 OPTION		
DSOCLOCK . . Clock Source	DS0ONES . . . Xmit All Ones	DS0RLOOP . . Loop Status
DS0IO . . . . . I/O Mode	DS0RCODE . . Receive Code	DS0XCODE . . Xmit Code
-> DDS OPTION		
DDSCLOCK . . Clock Selection	DDSRCODE . . Last Recd Code	SEQSTAT . . . Seq. Run Status
DDSIO . . . . . Data Path Sel.	DRIVE . . . . . DDS Drive Polar.	SIMPLEX . . . Simplex Loop
DDSMODE . . . Bridge/Term	SEQ . . . . . Xmit Sequence	
-> DIGITAL DATA TRAP		
BEGIN	N . . . . . Next Trap Page	STAT . . . . . Trigger Statu
CFMT	P . . . . . Prev Trap Page	TRAP . . . . . Trigger Enable
CSRC . . . . . Clock Selection	POL . . . . . Clock Polarity	TRAP/USER . . Xfer to USR
DISARM . . . . . Trigger Disable	SHIFT	TRIG . . . . . Show Trigger
DUMP	SHIFTL . . . . . Byte Shift Left	TSRC . . . . . Trigger Source
END	SHIFTR . . . . . Byte Shift Right	
GOTO . . . . . Set Viewing Area	SLOPE . . . . . Trigger Edge	

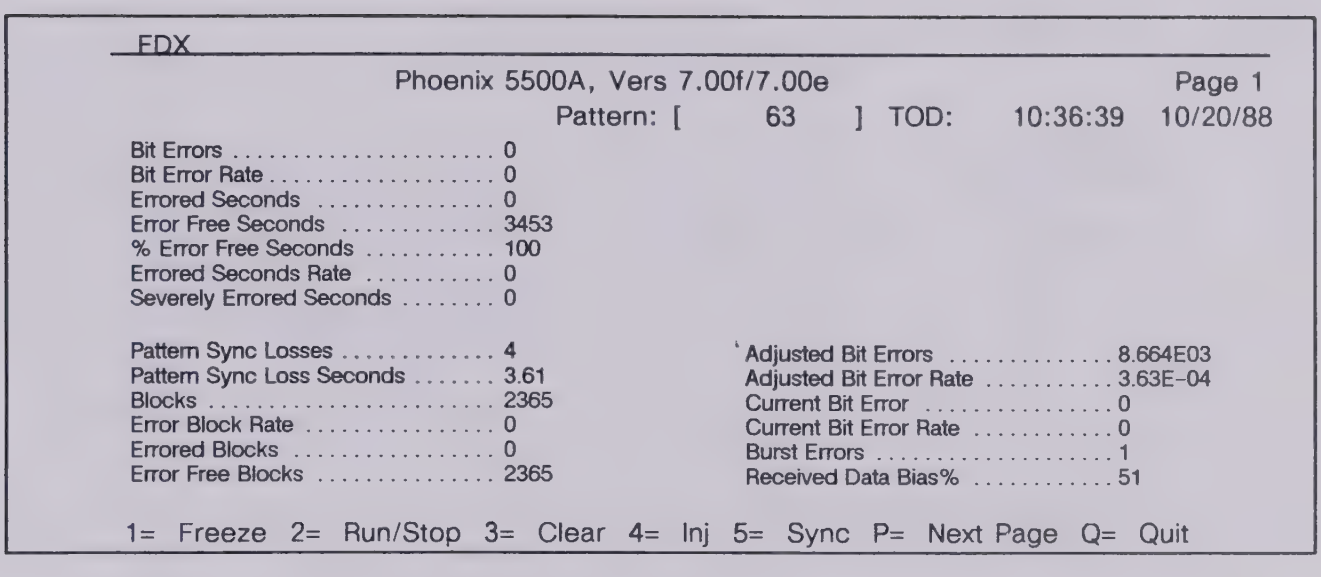
FDX

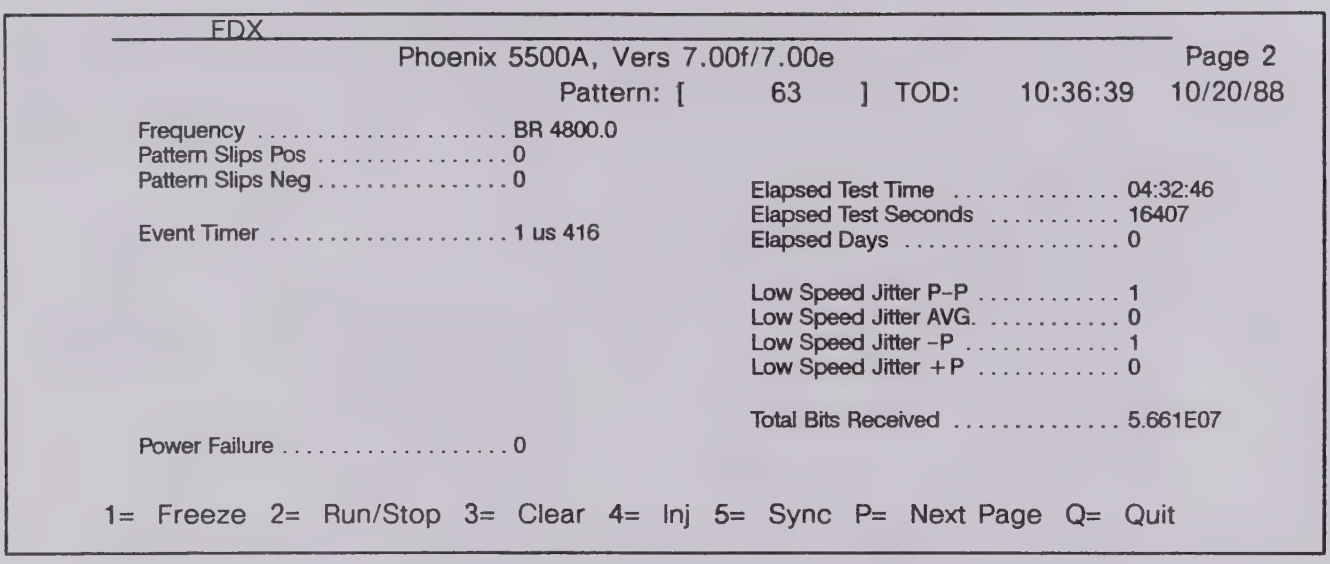
BEGIN	N ..... Next Trap Page	STAT ..... Trigger Statu
CFMT	P ..... Prev Trap Page	TRAP ..... Trigger Enable
CSRC ..... Clock Selection	POL ..... Clock Polarity	TRAP/USER . Xfer to USR
DISARM ..... Trigger Disable	SHIFT	TRIG ..... Show Trigger
DUMP	SHIFTL ..... Byte Shift Left	TSRC ..... Trigger Source
END	SHIFTR ..... Byte Shift Right	
GOTO ..... Set Viewing Area	SLOPE ..... Trigger Edge	

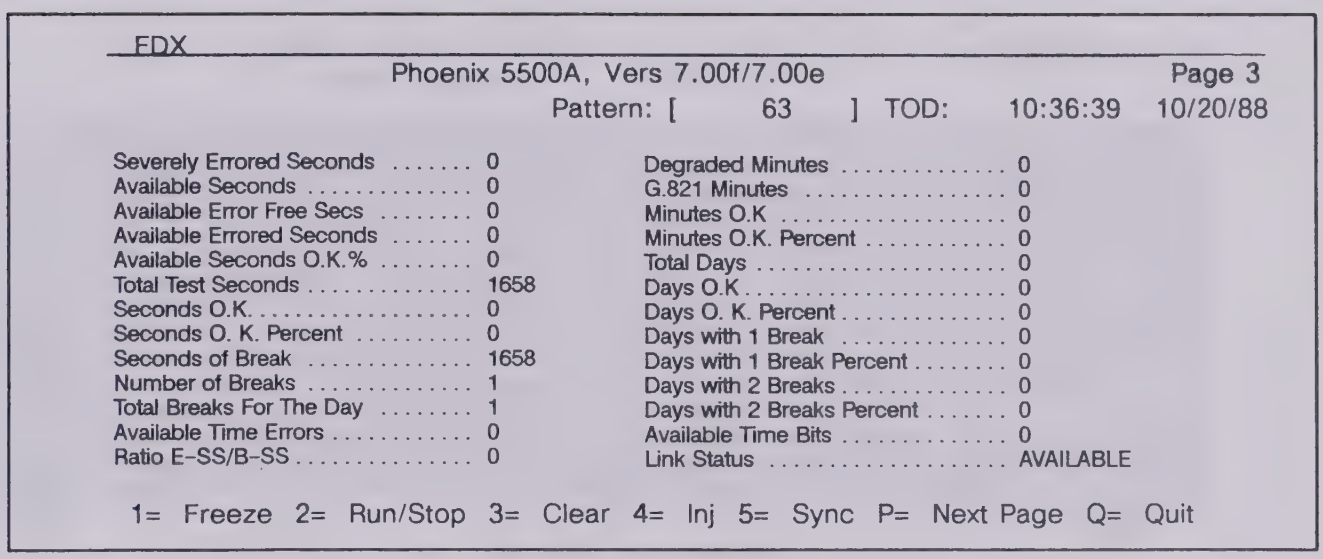
-> G821 PARAMETERS

AEFS ..... Av.Err.Free Secs	DM ..... Min w/Rate < MTHR	MTHR ..... Min.errs in DM
AES ..... Av.Errd.Secs.	DOK% ..... Dok Rate	NOB ..... No. of Breaks
AS% ..... Av. Sec Rate	DOK ..... Break Free Days	R-SS ..... Err Rate exc SES
AS ..... Available Secs	E-SS ..... Errs excl.SES	SES ..... Sev Erred Secs
B-SS ..... Bits excl SES	EBPS ..... Expl.bps	SOB ..... Seconds of Break
DAYS ..... G821 test days	EFS% ..... Aefs Rate	SOK% ..... SOK% Rate
DB1% ..... DB1 Rate	LSTAT ..... Link Status	SOK ..... Secs w/Rate < STHR
DB1 ..... Days w/1 Break	MIN ..... Av.Min. of Test	STHR ..... Min.errs in SES
DB2% ..... DB2 Rate	MOK% ..... MOK Rate	TBFD ..... Tot Breaks Today
DB2 ..... Days w/2 breaks	MOK ..... Minutes Ok	TS ..... Seconds of test

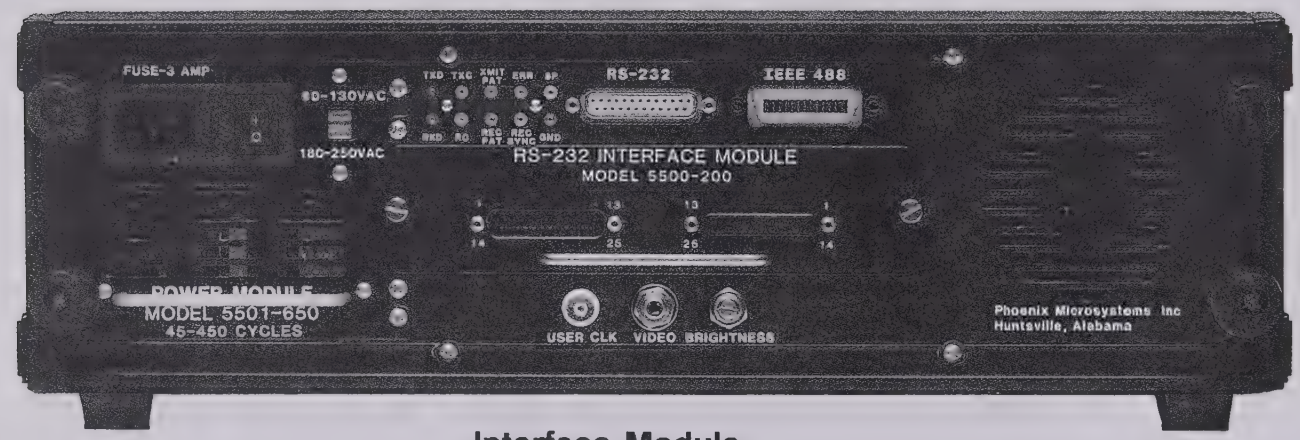
The big screen display, presented on pages 39 through 41, provides the user with a current display of all the test parameters. This three page display (brought to the screen by the UPDATE command) is continually updated. The user may "freeze" the display by pressing the <1> key. While this freezes the current display, it does not stop the accumulation of data. The display will update as soon as the freeze command is removed (by pressing the <1> key). Additionally, through the use of the designated keys, Run/Stop <2>, Clear <3>, Error Injection <4>, and Sync <5> may be controlled from this display. The <P> key permits the user to scroll through the three page display and the <Q> key will return the user to the system prompt "B>".


FDX
Phoenix 5500A, Vers 7.00f/7.00e
Page 1
Pattern: [63] TOD: 10:36:39 10/20/88
Bit Errors 0
Bit Error Rate 0
Errored Seconds 0
Error Free Seconds 3453
% Error Free Seconds 100
Errored Seconds Rate 0
Severely Errored Seconds 0
Pattern Sync Losses 4
Pattern Sync Loss Seconds 3.61
Blocks 2365
Error Block Rate 0
Errored Blocks 0
Error Free Blocks 2365
Adjusted Bit Errors 8.664E03
Adjusted Bit Error Rate 3.63E-04
Current Bit Error 0
Current Bit Error Rate 0
Burst Errors 1
Received Data Bias% 51
1= Freeze 2= Run/Stop 3= Clear 4= Inj 5= Sync P= Next Page Q= Quit


FDX
Phoenix 5500A, Vers 7.00f/7.00e
Page 2
Pattern: [63] TOD: 10:36:39 10/20/88
Frequency ..... BR 4800.0
Pattern Slips Pos 0
Pattern Slips Neg 0
Event Timer ..... 1 us 416
Elapsed Test Time 04:32:46
Elapsed Test Seconds 16407
Elapsed Days 0
Low Speed Jitter P-P 1
Low Speed Jitter AVG. 0
Low Speed Jitter -P 1
Low Speed Jitter +P 0
Total Bits Received 5.661E07
Power Failure 0
1= Freeze 2= Run/Stop 3= Clear 4= Inj 5= Sync P= Next Page Q= Quit


FDX
Phoenix 5500A, Vers 7.00f/7.00e
Page 3
Pattern: [63] TOD: 10:36:39 10/20/88
Severely Errored Seconds 0
Available Seconds 0
Available Error Free Secs 0
Available Errored Seconds 0
Available Seconds O.K.% 0
Total Test Seconds 1658
Seconds O.K. 0
Seconds O. K. Percent 0
Seconds of Break 1658
Number of Breaks 1
Total Breaks For The Day 1
Available Time Errors 0
Ratio E-SS/B-SS 0
Degraded Minutes 0
G.821 Minutes 0
Minutes O.K 0
Minutes O.K. Percent 0
Total Days 0
Days O.K 0
Days O. K. Percent 0
Days with 1 Break 0
Days with 1 Break Percent 0
Days with 2 Breaks 0
Days with 2 Breaks Percent 0
Available Time Bits 0
Link Status ..... AVAILABLE
1= Freeze 2= Run/Stop 3= Clear 4= Inj 5= Sync P= Next Page Q= Quit

Power Module **Test Points** **RS-232 IEEE-488 Remote Ports**



Interface Module
USER CLOCK VIDEO BRIGHTNESS

5500A Rear Panel

GLOSSARY of MENU ACRONYMS

ABE ..... Adjusted Bit Errors
ALRM ... Alarms
BALS .... Blue Alarm Seconds
BER ..... Bit Error Rate
BLE ..... Errored Blocks
BURS .... Burst Errors
CBER .... Current Bit Error Rate
CRER .... CRC Error Rate
CEFS .... CRC Error Free Seconds
EBR ..... Errored Block Rate
EFB ..... Error Free Blocks
EFS% .... Percent Error Free Secs
ABER ... Adjusted Bit Error Rate
AHST ... Alarm History
BE ..... Bit Errors
BITS .... Received Data Bits
BLK .... Blocks
CBE .... Current Bit Error
CRCE ... CRC Errors
CRES ... CRC Errored Seconds
CSLP ... Clock Slip
ED ..... Errored Days
EFS ..... Error Free Seconds
%1sD ... Percent 1's Density

GLOSSARY of MENU ACRONYMS (Cont.)

ES	Errored Seconds
ET	Elapsed Time
FBE	Frame Bit Errors
FBES	Frame Bit Errored Secs
FLOS	Frame Sync Loss
LOS	Loss of Sync
PF	Power Failures
RBPV	Receive Bipolar Violations
RVR	Receive Violation Rate
SLS	Sync Loss Seconds
TOD	Time of Day
TVR	Transmit Violation Rate
WND+ ...	Wander Positive
ESR	Errored Seconds Rate
ETS	Elapsed Time in Seconds
FBER ...	Frame Bit Error Rate
FEFS ...	Frame Bit Error Free Secs
FLS	Frame Loss Seconds
MDY	Month/Day/Year
PSL(+/–)	Pattern Slips
RFVS ...	Rec Violation Free Secs
RVS	Receive Violation Seconds
TBPV ...	Transmit Bipolar Violations
TVFS ...	Xmit Violation Free Secs
TVS	Transmit Violation Seconds
WND– ..	Wander Negative

GLOSSARY of MENU ACRONYMS (Cont.)

YALS .... Yellow Alarm Seconds
15ZS .... 15 Zero Seconds
15Z ..... 15 Zeros

G.821 Performance Monitoring Parameters

TS ..... Total Seconds
STHR .... SES Threshold
MIN ..... Available Minutes
AS ..... Available Seconds
EFS ..... Error Free Seconds
SOK ..... Seconds/within spec
MOK .... Minutes/within spec
AS% ..... Percent of AS
SES ..... Severely Errored Seconds
SOB .... Seconds of Break
DM ..... Degraded Minutes
AES .... Available Errored Seconds
EFS% ... % of EFS
SOK% ... % of SOK
MOK% .. % of MOK
NOB .... Number of Break

CPR & CLEI #'s for 5500A and Options

Item	CPR	CLEI
5500A	474479	DSTEULD6AB
5500A-200 RS232 I/O	099604	DSTQA031AA
5500A-254 MULT SWITCHING UNIT	574513	DSTEUJ06AA
5500A-300 V.35 I/O	573895	DSTQAD01AA
5500A-450 RS-449/MIL 188/114 I/O	772463	DSTEUAD6AA
5500A-500 TTL I/O	573896	DSTQAD11AA
5500A-538 DDS I/O	772464	DSTEUB06AA
5500A-539 DS0/DS0A I/O	772465	DSTEUC06AA
5500A-600 T1/T1C I/O	772471	DSTEUH06AA
5500A-624 T1 FRAMED I/O	573894	DSTQAD21AA
5500A-628 ESF T1 I/O	772466	DSTEUD06AA

CPR & CLEI #'s for 5500A and Options (Cont.)

Item	CPR	CLEI
5500A-700 T2 I/O	873563	DSTQAD41AA
5500A-810 G.703 64KBPS I/O	873566	DSTQAD51AA
5500A-828 ESF G.703 92.048 MBPS) I/O	772467	DSTEUFD6AA
5500A-900 BELL 303 I/O	873567	DSTQAD61AA
5501-182 CARRYING CASE, SOFT	099604	DSTEUX06AA

SUGGESTED READING

1. Phoenix T1 Fact Finder -- Phoenix Part # 34-00075 -- Available from Phoenix @ $5.00 per copy.

2. Phoenix FootNotes -- A quarterly free publication that provides the reader with equipment updates, product alerts, and other factual information on data communications.

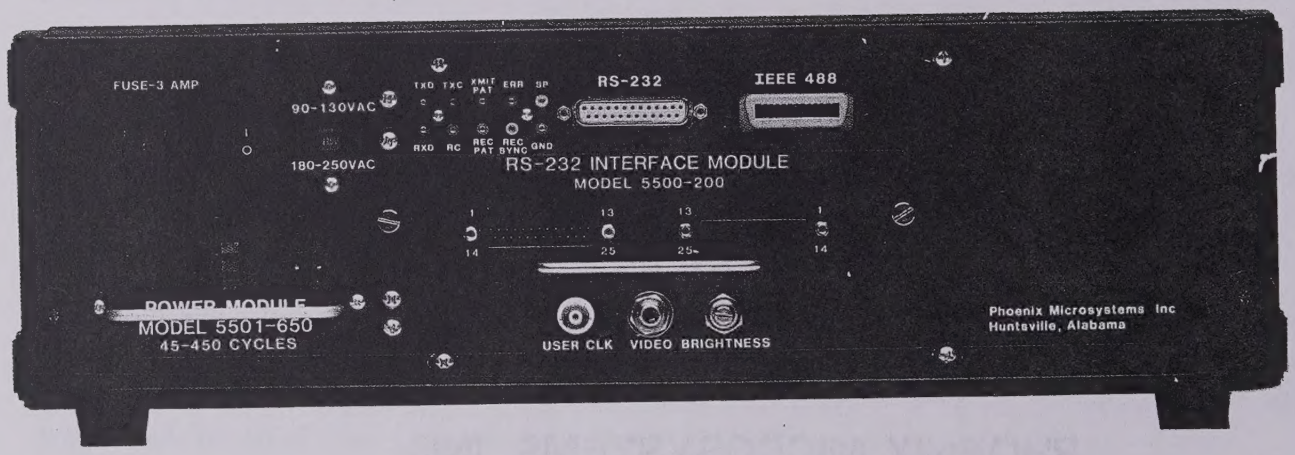
NOTE: Technical publications at Phoenix exists to provide you with the information you require to efficently operate Phoenix equipment. Any input from you, the user, is greatly appreciated and is generally incorporated into the next revision of the document. We invite you to send your comments to us at the address on the inside rear cover.

PHOENIX MICROSYSTEMS, INC.

991 Discovery Drive

Huntsville, AL 35806

(205) 721-1200



REAR PANEL
5500A

95913